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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,301	09/28/2000	Takeo Kitayama	PM 273903558220	8390

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EXAMINER

NGUYEN, KIMBERLY T

ART UNIT

PAPER NUMBER

1774

DATE MAILED: 03/28/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant No.

09/671,301

Applicant(s)

KITAYAMA ET AL.

Examiner

Kimberly T. Nguyen

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yagi et al., U.S. Pat. No. 4,894,281 in view of Nakajima et al., U.S. Pat. No. 6,207,600 B1.

Yagi shows a polypropylene-based fiber-reinforced molded body wherein the melting point of the polypropylene matrix resin is about 150° to 180°C (column 11, lines 3-35). Yagi shows that the polyethylene fibers used to reinforce the molded body comprise polypropylene or a copolymer of ethylene and propylene and/or  $\alpha$ -olefin (column 6, lines 11-32). Yagi shows that the fibers are combined into the matrix resin in the form of a knitted fabric (column 2, lines 4-14) and that the fibers can be oriented in a single direction (Figure 7).

Though Yagi shows that the melt kneading of the fibers is carried out at a temperature of 150° to 300°C (column 7, lines 22-27), Yagi does not specifically show that the fibers have a melting point such that the formula of instant claim 1 is satisfied. In addition, Yagi does not show that a nucleating agent is added to the fibers as in instant claim 3. Further, Yagi does not show that the fibers have an average fiber diameter as in instant claim 6.

Nakajima shows reinforcing polypropylene fibers in a fibrous molding wherein the polypropylene fibers have a melting point of 160° to 168°C (column 4, lines 50-57). Nakajima shows that a nucleating agent is added to the fibers (column 8, lines 49-54) and that the fibers

Art Unit: 1774

may be formed into a knit fabric (column 9, lines 53-58). Nakajima shows in Table 2(1/2) that the diameter of the fibers can be 8.8 $\mu$ m. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the polypropylene fibers of Nakajima in the fiber reinforced polymer mold of Yagi since it is known by the skilled artisan that the polypropylene fibers are effectively used in polypropylene-based moldings due to its excellent toughness and durability, economical value, adhesiveness to the polypropylene-based matrix polymer, and shape-retention. Thus, the formula of instant claim 1 is satisfied. In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use add a nucleating agent to the fibers since it is known in the art that the agents increase adhesiveness between the fibers and the matrix resin.

Finally, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the fibers with the diameters as in instant invention since the diameter of the fibers is a property which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the diameter, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operating conditions (e.g. diameter) fails to render claims patentable in the absence of unexpected results.

### ***Conclusion***

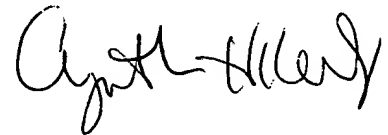
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Nguyen whose telephone number is (703) 308-8176. The examiner can normally be reached on Monday to Friday, except on every other Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for before final communications and (703) 872-9311 for after final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Kimberly Nguyen  
Examiner  
Art Unit 1774

CYNTHIA H. KELLY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

A handwritten signature in black ink, appearing to read 'Cynthia H. Kelly', is written over the printed name and title.